Volunteer Lake Assessment Program Individual Lake Reports

CANAAN STREET LAKE, CANAAN, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,571	**Max. Depth (m):**	6.7	**Flushing Rate (yr^{-1})**	0.8
Surface Area (Ac.):	303	**Mean Depth (m):**	3	**P Retention Coef:**	0.78
Shore Length (m):	6,400	**Volume (m^3):**	3,587,000	**Elevation (ft):**	1142

TROPHIC CLASSIFICATION

Year	Trophic class
2005	OLIGOTROPHIC
2008	OLIGOTROPHIC

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

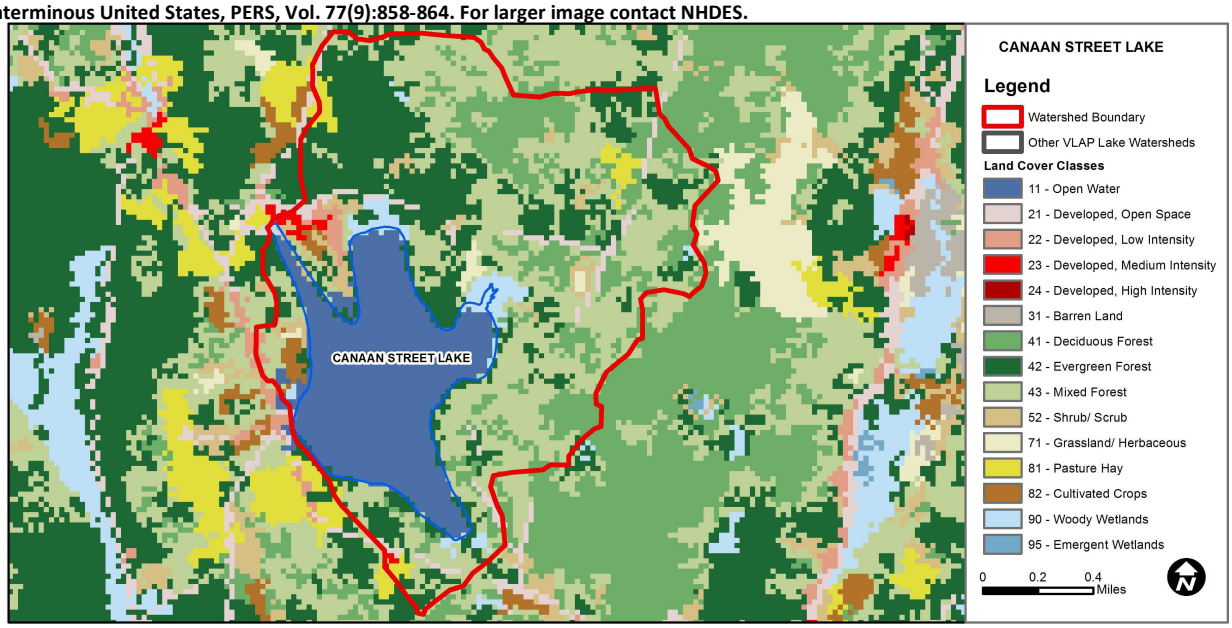
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

CANAAN ST LAKE - CRESCENT CAMPSITES	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
CANAAN ST LAKE - CAMP WAR BONNET BEACH	E. coli	No Data	No Data for this parameter.
CANAAN STREET LAKE - TOWN BEACH	E. coli	Bad	>/=1 exceedance(s) of geometric mean criterion and/or >/=2 exceedances of single sample criterion, with 1 or more >2X criteria.
CANAAN STREET LAKE - TOWN BEACH	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



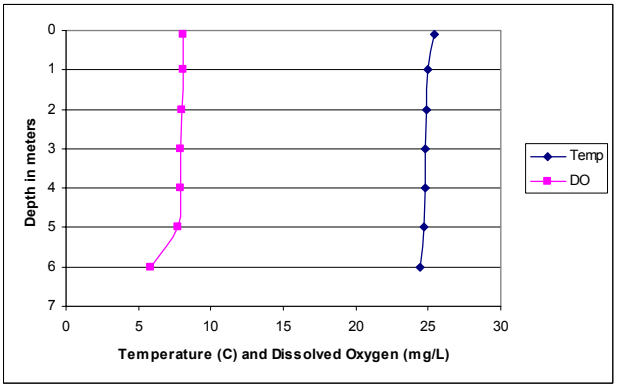
Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	20.6	Barren Land	0	Grassland/Herbaceous	0.58
Developed-Open Space	2.26	Deciduous Forest	13.85	Pasture Hay	1.47
Developed-Low Intensity	0.78	Evergreen Forest	23.44	Cultivated Crops	0.77
Developed-Medium Intensity	0.46	Mixed Forest	31.11	Woody Wetlands	2.58
Developed-High Intensity	0	Shrub-Scrub	2.24	Emergent Wetlands	0

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
CANAAN ST. LAKE, CANAAN, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** Average chlorophyll levels were low and well below the NH lake median. Historical trend analysis indicates a relatively stable chlorophyll level since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Conductivity slightly above average for NH lakes.
- **E. COLI:** E. coli levels at the Town Beach were well below state standards for public beaches.
- **TOTAL PHOSPHORUS:** Average deep spot and tributary phosphorus levels were low. Historical trend analysis indicates relatively stable epilimnetic (upper water layer) phosphorus levels.
- **TRANSPARENCY:** Average transparency is above the NH lake median and historical trend analysis indicates a relatively stable transparency since monitoring began.
- **TURBIDITY:** Average deep spot turbidity was low. Turbidity in the Inlet at Fernwood Farms was slightly elevated likely due to low flow conditions.
- **pH:** Average pH sufficient to support a variety of aquatic life in 2012.
- **RECOMMENDED ACTIONS:** Conduct chloride monitoring at the deep spot and tributaries to assess impacts of road salting. Keep up the great work!

2012 Dissolved Oxygen & Temperature Profile



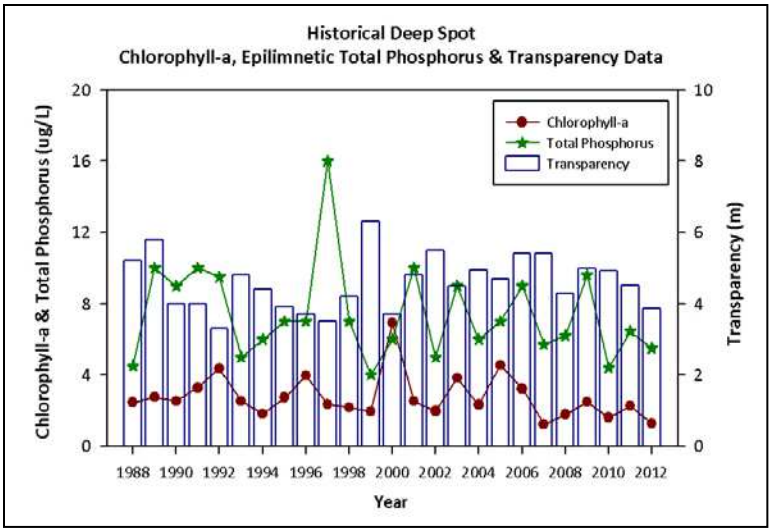
Station Name	Table 1. 2012 Average Water Quality Data for CANAAN STREET LAKE								
	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	m		ntu	
						NVS	VS		
Deep Epilimnion	12.7	1.28	65.5		6	3.86	5.45	0.69	7.35
Deep Hypolimnion			64.0		5			0.69	7.34
Inlet At Fernwood Farms			66.4		11			1.49	6.97
Outlet			69.0		11			0.78	6.73
Town Beach				2					

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Stable	Data not significantly increasing or decreasing.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Variable	Data fluctuate annually, but are not significantly increasing or decreasing.



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